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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/516,497

12/01/2004

Masahiro Goto

123767

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25944

7590

09/04/2007

OLIFF & BERRIDGE, PLC

P.O. BOX 19928

ALEXANDRIA, VA 22320

EXAMINER

DO, ROBERT C

ART UNIT

PAPER NUMBER

2851

MAIL DATE

DELIVERY MODE

09/04/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No.	Applicant(s)	
	10/516,497	GOTO, MASAHIRO	
	Examiner	Art Unit	
	Robert C. Do	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 18, and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 18 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 6/15/2007 have been fully considered but they are not persuasive. Applicant's arguments starting on page 8 states that the office action did not establish a motivation to combine the cited references or that a reasonable expectation of success existed. Examiner respectfully disagrees with applicant and believes the examiner did give sufficient motivation to combine all the claimed elements in the different references. Page 7 of the rejection by the examiner states the motivation as "in order to control the amount of incident light reflected back" which is obvious because this control can lead to several advantages such as a reduction in glare, improving the picture quality image by making it sharper.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 6 – 9, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Plummer (US 3,718,078) in view of Tachibana et al. (US 5,410,006)

further in view of Ono (Japanese Patent Publication Number 2002-169225) further in view of van den Ven (US 5,005,945).

Regarding Claims 1, 18, and 19, Plummer discloses an optical element (Fig. 5, 12) that changes an optical path of incident light, the optical element being formed on at least one of the planes of incidence (Right Side of Fresnel Lens in Fig. 5) and emergence (Left Side of Fresnel Lens in Fig. 5), wherein a predetermined part of the optical member, selected from the planes of incidence (Right Side of Fresnel Lens in Fig. 5) and emergence (Left Side of Fresnel Lens in Fig. 5), has a plurality of minute concavities (14) by which reflection of light incident on the predetermined part is prevented, and the mold having formed thereon a plurality of minute protrusions in a shape that is a reverse of a shape of the plurality of minute concavities. (See Abstract describing that a mold can be made in the shape opposite of the Fresnel lens so duplicates can be made in large number)

Plummer does not disclose wherein the optical member is formed by casting a molding resin upon a surface of a mold and by curing the molding resin.

However, Tachibana et al. discloses wherein the optical member is formed by casting a molding resin upon a surface of a mold and by curing the molding resin. (Figs. 2(a) – 2(c) and Column 6, lines 30 – 50 disclosing the process)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the Fresnel lens with minute concavities of Plummer with the mold with minute protrusions of Plummer using the curing molding

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resin method of making Fresnel lenses of Tachibana et al. for the purpose of having more durable screens made out of the resin instead of the glass of Plummer.

Plummer and Tachibana et al. do not disclose wherein the concavities have a mean depth of $.05\text{ }\mu\text{m}$ or more and $.5\text{ }\mu\text{m}$ or less, and a mean distance between neighboring two of the concavities is not more than $.5\text{ }\mu\text{m}$.

However, Ono discloses wherein the concavities have a mean depth of $.05\text{ }\mu\text{m}$ or more and $.5\text{ }\mu\text{m}$ or less (Paragraph [0010], line 6), and a mean distance between neighboring two of the concavities is not more than $.5\text{ }\mu\text{m}$ (Paragraph [0010], lines 4-6).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the concavities of Plummer to have a mean depth of $.05\text{ }\mu\text{m}$ or more and $.5\text{ }\mu\text{m}$ or less as taught by Ono for the purpose of diffusing incoming light incident on the Fresnel lens better than Fresnel lenses with larger concavities giving the screen a wider viewing angle.

Plummer and Tachibana et al. do not disclose wherein the concavities have a mean radius in a direction of plane $.5$ to 2 times the mean depth of the concavities.

However, Ono discloses wherein the concavities have a mean radius in a direction of plane $.5$ to 2 times the mean depth of the concavities (Paragraph [0011], line 22 shows a range for the radius as $.005 - .1\text{ }\mu\text{m}$ and Paragraph [0010], line 6 shows a range for the depth as $.05 - .2\text{ }\mu\text{m}$; Therefore it can be shown that a radius of $.1\text{ }\mu\text{m}$ and a depth of $.1\text{ }\mu\text{m}$ gives a ratio where the radius is 1 times the depth which is in the claimed range of $.5$ to 2 times).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the concavities of Plummer to have a mean radius in a direction of plane .5 to 2 times the mean depth of the concavities as taught by Ono for the purpose diffusing incoming light incident on the Fresnel lens better than Fresnel lenses with larger concavities giving the screen a wider viewing angle.

Plummer and Tachibana et al. do not disclose wherein the concavities have a mean depth that is .2 to 2 times the mean distance between neighboring two of the concavities.

However, Ono discloses wherein The concavities have a mean depth that is .2 to 2 times the mean distance between neighboring two of the concavities (Paragraph [0010], line 6 shows a range for the depth as .05 –.2 μm and Paragraph [0010] lines 4-6 show that the distance can range from .2 –.9 μm ; Therefor it can be shows that a depth of .2 μm and a distance of .2 μm would give us a ratio where the depth is 1 times the distance which is in the claimed range of .2 to 2 times).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the concavities of Plummer to have a mean depth that is .2 to 2 times the mean distance between neighboring two of the concavities as taught by Ono for the purpose diffusing incoming light incident on the Fresnel lens better than Fresnel lenses with larger concavities giving the screen a wider viewing angle.

Plummer and Tachibana in view of Ono does not teach of an optical member where a laminar portion including with the concavities has a percentage of void of 20 to 50%.

However van de Ven teaches of an optical member that has concavities where the percentage of void is 20 to 50% (Fig. 2, 3, 4 and 5 show a screen with concavities and also show a width of b and height of h_2 and h_1 . From that we can determine that the void of the screen is within 20 to 50%).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make screen of Ono have concavities where it has a percentage of void between 20 to 50% in order to control the amount of incident light reflected back.

Regarding Claim 6, Plummer discloses the optical member contains plurality of minute protrusions in addition to the plurality of minute concavities. (See Fig. 5 showing protrusions in between the concavities).

Regarding Claim 7, Plummer and Tachibana et al. disclosures have been disclosed above.

Plummer and Tachibana et al. do not disclose wherein the optical member where it is used for the purpose of a projection screen (Paragraph [0002], line 8).

However, Ono discloses wherein the optical member where it is used for the purpose of a projection screen (Paragraph [0002], line 8).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the Fresnel lens of Plummer into a projection screen as taught by Ono for the purpose of paralleling the light from the projector to see moving images upon it.

Regarding Claim 8, Plummer discloses wherein the optical element where incident light is allowed to follow optical paths approximately parallel to one another (Incident light that follows optical paths that are approximately parallel to one another is an inherent quality of a Fresnel lens which is the invention of Plummer, see previously attached in the action dated 7/6/2006 "The Fresnel Lens" article).

Regarding Claim 9, Plummer discloses wherein the optical element where incident light is allowed to follow dispersed optical paths. (See abstract of Plummer)

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert C. Do whose telephone number is (571)272-

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1387. The examiner can normally be reached on Monday Through Friday, 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571)272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RCD



DIANE I. LEE
SUPERVISORY PATENT EXAMINER